

REMARKS

The Office Action mailed August 10, 2005, has been reviewed. Claims 1 and 3 through 30 are currently pending in the application. Claims 1 and 3 through 30 stand rejected.

35 U.S.C. § 103(a) Rejections

The Office Action dated August 10, 2005 alleges that EP000670195A1, JP408174263A, and JP359090244A teach all of the claimed components of the invention and thus make the subject matter obvious to one skilled in the art. The present Office Action, dated February 1, 2006, reaffirms the earlier rejection and adds Nishii *et al.* as a basis for rejection in response to amendments made by Applicants.

I. 103(a) Rejection over EP000670195A1 in view of JP408174263A and Nishii *et al.*

Claims 1 through 30 stand rejected under 35 U.S.C. § 103(a) over EP000670195A1 in view of JP408174263A and Nishii *et al.* The Office Action cites EP0670195A1 as describing laser ablation of fluorocarbon resins, JP408174263A as teaching the absorption response of resins containing inorganic particles, and Nishii *et al.* as teaching the claimed wt.% amounts of light-absorbing material in fluorine resins.

To establish a *prima facie* case of obviousness under 35 U.S.C. §103(a), it must be shown that: 1) the prior art references teach or suggest all the claim limitations, 2) there is suggestion or motivation to modify or combine reference teachings, and 3) there is a reasonable expectation of success. See MPEP 2143, 8th Edition, Revised February 2003, page 2100-124. Applicants submit that the Office Action does not make a *prima facie* case of obviousness because the prior art references do not teach or suggest all the claim limitations. In particular, EP0670195A1 does not describe the ablation method of the invention and JP408174263A does not teach the absorption response of resins.

A. EP0670195A1 Does Not Describe the Ablation Disclosed in the Present Application

The Office Action cites EP0670195A1 as describing laser ablation of fluorocarbon resins. However, EP0670195A1 does not teach laser ablation of

fluorocarbon resins but instead teaches the use of lasers to remove fluorocarbon coatings from metal substrata. In particular, the laser in EP0670195A1 acts on the “primer” used to affix the fluorocarbon coating to the metal, and/or on the primer-coating interface. *See* EP0670195A1, col. 1, ll. 13-17 (describing the use of a primer to improve adhesion between the fluorocarbon resin and the metal); *id.* at col. 3, ll. 25-27 (stating that the laser caused separation between the primer and the coating). In other words, the laser *loosens* or peels the coating from the surface, allowing it to be *mechanically* removed. The claimed invention, on the other hand, is an ablative process that vaporizes material. Unlike the claimed invention, in EP0670195A1 the fluorocarbon coatings are not eroded or successively removed by the action of the laser.

For example, EP0670195A1 explicitly states that substantially negligible amounts of the fluorocarbon coating are “degraded”. *See id.* at col. 4, ll. 26-28; *id.* at col. 2, ll. 19-23. In contrast, Applicants’ invention involves ablation in which the fluorocarbon molecules at or near the surface of the fluorocarbon resin are vaporized and removed by what is clearly a degradative process (the Specification repeatedly notes the release of a cloud of fluorocarbon vapor). Therefore, EP0670195A1 does not teach or suggest the ablation method of the instant invention. Accordingly, the prior art references do not teach or suggest all the claim limitations.

B. JP408174263A Does Not Discuss the Absorption of Lasers by Resins

The Office Action cites JP408174263A as teaching “the absorption response of resin materials containing inorganic particles such as carbon black and pigments have [sic] to laser beam irradiation.” The Office Action further alleges that “resin materials containing either carbon black or pigments have a similar response with respect to laser absorption.”

Contrary to the Office Action, JP408174263A does **not** teach the **absorption response** of resins. Instead, JP408174263A describes the use of a laser to *affix* inorganic particles or pigments to a surface using a laser. *See* JP408174263A, Abstract. JP408174263A does not mention anything about a differential response to irradiation between resin containing inorganic particles vs. resin not containing inorganic particles.

In fact, the carbon black and pigments in JP408174263A are not added to the resin in order aid in absorption but rather are used to “mark” the surface of the molding body by being affixed to the surface. The resin simply acts to bind the markings to the surface and does not change the absorption properties of the resin molding body. Therefore, JP408174263A does not teach or suggest the absorption response of resin materials. Accordingly, the prior art references do not teach or suggest all the claim limitations and Applicants respectfully request that the rejection of claims 1 and 3-30 be withdrawn in this regard.

II. 103(a) Rejection over EP000670195A1 in view of JP408174263A, Nishii *et al.*, and JP359090244A

Claims 21, 23-26, and 30 stand rejected under 35 U.S.C. § 103(a) over EP000670195A1 in view of JP408174263A, Nishii *et al.*, and JP359090244A. Applicants respectfully traverse this rejection on the grounds that the Office Action does not make a *prima facie* case of obviousness because the prior art references neither 1) teach or suggest all the claim limitations, nor 2) suggest or motivate one skilled in the art to modify or combine reference teachings.

As noted above, EP000670195A1 and JP408174263A do not teach or suggest the ablation and resin absorption elements ascribed to them in the Office Action. Accordingly, the prior art references do not teach or suggest all the claim limitations. Furthermore, Applicants traverse the reliance on JP359090244A because JP359090244A neither teaches nor suggests forming microchannels or wells and because there is no motivation to combine JP359090244A with EP000670195A1, JP408174263A, or Nishii *et al.*

The Office Action cites JP359090244A as teaching the use of lasers to selectively form holes and other structures by ablation of a fluorocarbon-containing material. In light of such teaching, the Office Action alleges that the claimed method of forming microchannels or wells is obvious. However, the method of JP3590990244A does not teach or suggest the claimed method of forming microchannels or wells.

JP359090244A is directed to data recording means involving a thin surface of fluorocarbon. The fluorocarbon is sputtered onto polymethacrylate with Te to form an amorphous Te optical recording layer. It is clear from the JP359090244A Abstract and Figure 1 that the amount of Te used is much greater than the amount of fluorocarbon used. Accordingly, JP359090244A does not teach or suggest the claimed fluorocarbon resin with of UV absorbing material because there is less fluorocarbon than UV absorbing material (Te) in JP359090244A.

Furthermore, JP359090244A does not teach how thick the layer of fluorocarbon is in the recording system. The "holes" referred to in the Abstract appear to simply be gaps in spotting a small amount of fluorocarbon. As such, there is no teaching or suggestion of the fluid-containing holes (or wells) described in the present invention or that such structures could be made by the process of JP359090244A. The Office Action has summarily stated that microfluidic structures are known in the art, but has failed to point out any teaching or motivation to use the data recording method of JP359090244A to form such microfluidic structures. Therefore, JP359090244A does not teach or suggest forming microchannels or wells and there is no motivation to combine JP359090244A with EP000670195A1, JP408174263A, or Nishii *et al.* Accordingly, Applicants respectfully request that the rejection under 103(a) be withdrawn.

CONCLUSION

Claims 1 and 3 through 30 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

It is not believed that any time extension or fees are required with this response. If this is incorrect, an extension of time as deemed necessary is hereby requested, and the Commissioner is hereby authorized to charge any appropriate fees or deficiency or credit any over payment to Deposit Account no. 50-1627.

Respectfully submitted,



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